

PHASE 0/I GROUND SAFETY REVIEW FOR THE ALPHA MAGNETIC SPECTROMETER – 02 (AMS-02)

The Phase 0/I Ground Safety Review for the Alpha Magnetic Spectrometer-02 was held at the Kennedy Space Center (KSC) on March 26-27, 2002. A list of meeting attendees is attached at the end of these minutes.

Mr. John Dollberg, Chairman, Ground Safety Review Panel (GSRP), welcomed the group and asked the GSRP meeting attendees to introduce themselves.

Mr. James Bates, Mission Manager, JSC, presented opening remarks.

Dr. Samuel C. Ting, MIT, presented a status report of the AMS project and a description of the science goals for the AMS-02 Payload.

Mr. Ken Bollweg, Project Manager, Lockheed Martin Space Operations (LMSO), presented an overview of the AMS-02 Payload, and the Payload Integration Hardware.

Mr. Stephen Harrison, Space Cryomagnetics Ltd, presented an overview of the Superconducting Cryomagnetic Magnet (Cryomag) and the Cryomag & Cryogenic System GSE and Operations.

Mr. Phil Mott, LMSO, presented an overview of the Vacuum Case and the Ground Handling Equipment (GHE).

Mr. Trent Martin, LMSO presented an overview of the Experiment Hardware for the AMS-02 Accelerators and the Ground Support Equipment (GSE).

Mr. Paul Nemeth, LMSO, presented an overview of the Power, Avionics, Experiment & KSC provided Electrical GSE and Operations.

Mr. Peter Fisher, MIT, presented an overview of the TRD Gas System Ground Operations.

Mr. Thomas Tinsler, LMSO, presented the hazard reports.

General Comments:

The magnet will only be powered up occasionally during ground processing. There are no plans to operate the magnet at the pad.

There will probably be one cryo servicing operation in the Multi-Payload Processing Facility and one cryo servicing operation at the pad.

The vacuum system is insulated to prevent the formation of liquid air during cryo servicing.

HAZARD REPORTS (HRs)

G-AMS-02-1 - Failure of the AMS-02 Lifting Equipment

Hazard report was approved and signed.

G-AMS-02 –2 – Structure Failure of the AMS-02 Primary Support Stand (PSS) During Static Operations

Hazard report was approved and signed.

G-AMS-02-3 – AMS-02 Magnetic Field Causes Personnel Injury/Equipment Interference

Hazard report was approved and signed.

G-AMS-02-4 – Improper Materials Usage Causes Fire/Personnel Injury Equipment

Hazard report was approved and signed.

G-AMS-02-5 – Contact with Sharp Edges, Corners or Protrusions Causes Personnel Injury

Hazard report was approved and signed.

G-AMS-02-6 – Electrical Damage to the Orbiter, ISS Equipment, KSC Facilities, AMS-02 Payload or GSE

Hazard was approved and signed

G-AMS-02-7 – Electric Shock Causes Personnel Injury.

Hazard was approved and signed.

G-AMS-02-8 Electrical Ignition Sources Cause Fire-

Hazard report was approved and signed.

G-AMS-02-9 – Contact with High Temperature Surfaces Causes Personnel Injury

Hazard report was approved and signed.

G-AMS-02-10 – Rupture of the 1000 Liter GSE Liquid Helium (LH₂) Supply Dewar(s) the Transition Radiation Detector (TRD) GSE Pressure System(S) and/or the Flight Dewar

Hazard was approved and signed.

Phase II Verification Method 5b. Include more information in Phase II package.

G-AMS-02-11 – Failure of GSE Servicing Lines

Hazard was approved and signed.

G-AMS-02-12 – Exposure to High Pressure Gas, Cold Helium (He)/Nitrogen (N₂) Gas, Liquid Nitrogen (LH₂) and/or Cold Surfaces.

Hazard report was approved and signed.

G-AMS-02-13 – Loss of Breathable Atmosphere

Hazard report was approved and signed.

G-AMS-02-14 – Inadvertent Tipping, Sliding or Rolling of AMS-02 GSE/GHE

Hazard report was approved and signed.

G-AMS-02-15 – Excessive Ionizing Radiation

Hazard report was approved and signed.

ACTIONS ITEMS for AMS-02

Action #	Action	Due Date/Actionee
AMS-02/1	Determine if the composite overwrapped pressure vessels will require an initial pressure test at 1.1 times mop after arrival at KSC.	April 27, 2002 – Dollberg Closure date extended to June 7, 2002 – will be discussed in person with Dr. Beeson from White Sands.

Mr. Dollberg thanked the presenters for the review. A total of 15 hazard reports were reviewed and approved.

John C. Dollberg
Chairman, Ground Safety Review Panel

James R. Bates
AMS-02 Payload Manager